

PUT A PRICE ON IT

27 REASONS VERMONT SHOULD PRICE CARBON POLLUTION

How to strengthen the economy, prioritize the most vulnerable, and reduce carbon pollution

ABSTRACT

The Vermont Climate Action Commission has an unprecedented opportunity – and obligation – to recommend to Governor Phil Scott climate solutions that are commensurate to the climate challenge. This paper provides concrete reasons why one of those recommendations should be a price on carbon pollution.

Energy Independent Vermont

October 2017

INTRODUCTION

In July 2017, Vermont Governor Phil Scott signed an executive order creating a Vermont Climate Action Commission and reaffirmed the climate and clean energy goals set forth in the 2016 Comprehensive Energy Plan.¹

In this era of federal backsliding on climate matters, Gov. Scott has indicated that he believes Vermont should pursue energy independence. This is particularly promising, for as Edward Cameron of the Commission's Technical Advisory Group stated, "We need an activist Governor at a time when the party that gave us the National Parks System and the Environmental Protection Agency, and that actually signed us up to the U.N. Convention on Climate Change, has lost its senses on this issue. A Republican governor is the most important voice in the country on this issue right now."²

Demonstrating a willingness to pursue real climate solutions, Gov. Scott stacked the Commission with thoughtful Vermont leaders experienced in building consensus to get tough things done.

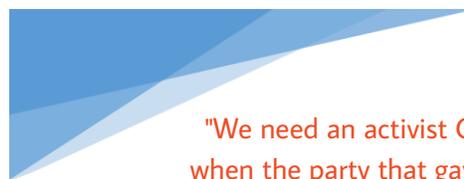
He tasked the commissioners with developing a strategy to reduce greenhouse gas emissions that:

- Spurs economic activity, inspires and grows Vermont businesses, and puts Vermonters on a path to affordability;
- Engages all Vermonters, so that no individual or group of Vermonters is unduly burdened; and
- Provides solutions for all Vermonters to reduce their carbon impact and save money.

These are thoughtful parameters, though there should be one more:

- The commission's recommended solutions must be commensurate to the challenge.

As the commissioners have been briefed, despite decades of lofty rhetoric and good intentions, Vermont's total carbon emissions are up since 1990.³ We are not on pace to meet any of the state's three sets of greenhouse gas reduction goals: the goals that Gov. Scott voted for as senator, the Paris Climate Accord goals he committed to by joining the U.S. Climate Alliance, or the Comprehensive Energy Plan goals he reaffirmed in his executive order.



"We need an activist Governor at a time when the party that gave us the National Parks System and the Environmental Protection Agency, and that actually signed us up to the U.N. Convention on Climate Change, has lost its senses on this issue. A Republican governor is the most important voice in the country on this issue right now."

-TAG member Edward Cameron

¹ <http://governor.vermont.gov/sites/scott/files/documents/EO%2012-17%20-%20Climate%20Action%20Commission.pdf>

² <http://www.benningtonbanner.com/stories/carbon-tax-number-one-at-climate-talk,520215>

³ http://anr.vermont.gov/sites/anr/files/specialtopics/VTCAC/20170815_VTCAC_Mtg1_GHG%20Update.pdf

In order to achieve any of Vermont's climate goals the Commission must recommend more comprehensive strategies than have been tried to date. Without bolder recommendations – and swift action by the governor and General Assembly – the naysayers who mock gubernatorial commissions as the place that good ideas go to die will be proved right once again.

If the commissioners and the governor are serious about their assignment, there is an effective climate strategy that conforms to all of the governor's conditions and is working elsewhere: carbon pollution pricing.

As President George W. Bush's Treasury Secretary Henry Paulson wrote in the New York Times, a price on carbon pollution would "unleash a wave of innovation to develop technologies, lower the costs of clean energy and create jobs." Want proof?

- California implemented a price on carbon pollution in 2013 and has created 1.5 million new jobs since then. That's almost three times as many new jobs in California as there are Vermonters.
- The Canadian province of British Columbia introduced a carbon pollution price in 2008 and their economy's growth has outpaced every other Canadian province the last three years running. In fact, the policy has been so successful that Prime Minister Justin Trudeau is implementing a nationwide carbon price next year.
- And look no further than Vermont. Republican Gov. Jim Douglas authorized Vermont's first price on carbon pollution in the electric sector by joining the Regional Greenhouse Gas Initiative – and it is working. The economies in the nine RGGI states are growing faster – and emissions from the electric sector are falling faster – than in those states outside the compact. As the Vermont 2017 Clean Energy Industry Report notes, "since 2013, clean energy employment has grown by 29 percent in Vermont, which amounts to a total of just over 19,000 jobs." You can't argue with that success.

There is a reason that economists from across the political spectrum – distinguished number crunchers like Richard Thaler, Joseph Stiglitz, Lawrence Summers, Jeffrey Sachs, Robert Reich, Gregory Mankiw, and Martin Feldstein – all support carbon pollution pricing: It is smart economics.

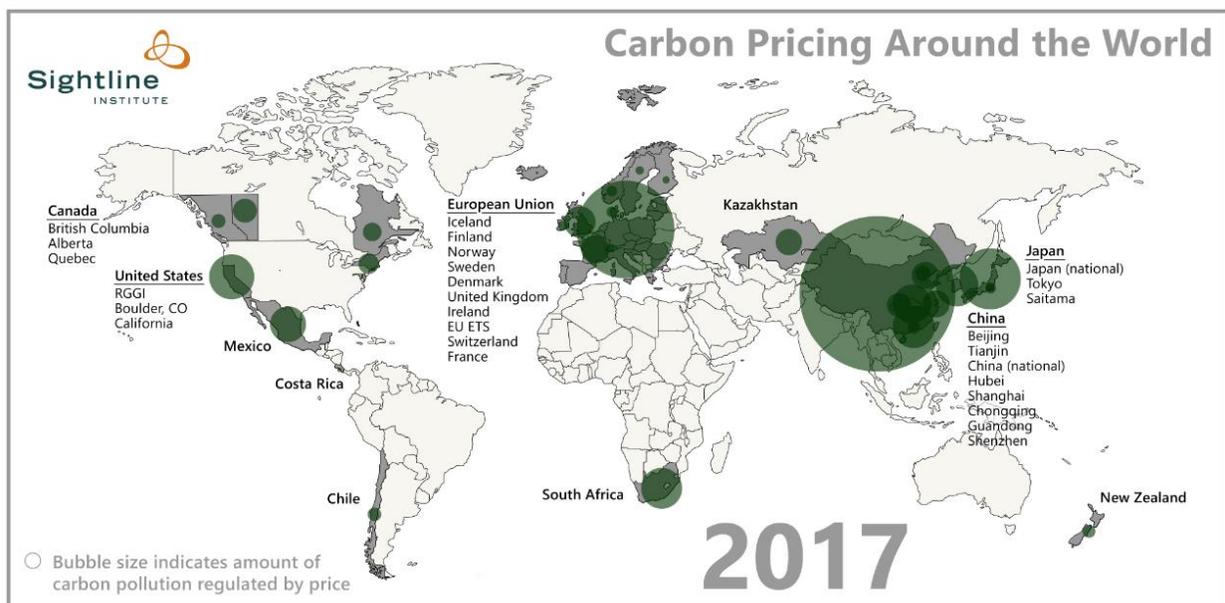
By returning the carbon pollution revenue to Vermonters in the form of tax cuts or dividends every Vermonter would be engaged. We would have both the incentive and the means to transition to the cleaner, more advanced technologies of the 21st century – growing jobs and putting many more Vermonters to work.

Finally, when it comes to saving Vermonters money, the sooner we transition off of fossil fuels the better. Even at today's low gasoline prices, it costs about one-third less to drive an electric vehicle in Vermont than one powered by an internal combustion engine. An electric heat pump delivers BTUs to a home or business more cost-effectively than an oil burning furnace. Carbon pollution pricing is a market-driven solution that encourages adoption of these and other low-carbon, low-cost technologies that save Vermonters money.

Carbon pollution pricing hastens the transition to the clean energy future and is a win-win for the Vermont economy and our climate.

The Climate Action Commission has a critical assignment – and an opportunity. Identifying and advancing the policy solutions that meet the measure of the problem, like carbon pricing, will turn the challenge Gov. Scott has put forward into the job-creating, money-saving, energy-innovating opportunity it provides.

One of the challenges policy makers face in designing a carbon pollution pricing mechanism is finding the appropriate balance of pricing and revenue recycling to optimize economic and environmental benefits. A study of current carbon pricing mechanisms at work around the world will show that each program is designed specifically for the local context.



Vermont policy makers should consider this as they move forward. Instead of adopting another state's or country's carbon pricing plan – let's design a plan that's right for the Vermont context.

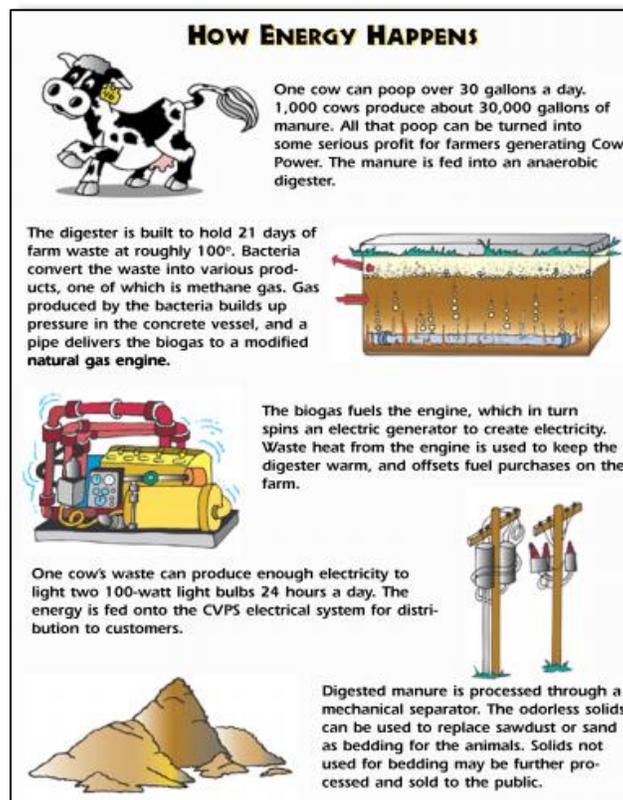
What follows are 27 specific reasons the Vermont Climate Action Commission should recommend carbon pollution pricing and help Governor Scott become "the most important voice in the country on this issue right now."

1. AGRICULTURE

Carbon pricing rewards low-carbon innovations – like Cow Power, wind and solar – on the farm, and farmers like those at Audet’s Blue Spruce Farm in Bridport.

“Dairy farms across the country are actively implementing new technology and adopting practices that reduce their carbon footprint and ensure their sustainability for today and beyond.”⁴ Audet’s Blue Spruce Farm in Bridport, Vermont is one of the pioneers in this movement, and was the first farm in the nation powered by both Cow Power and wind power.

By discouraging fossil fuels, carbon pricing rewards renewable energy innovations like cow power – which isn’t subject to a carbon price – making it even more attractive in the energy marketplace:



www.bluesprucefarmvt.com

Further, a financial analysis of the agricultural sector in British Columbia found “*little evidence that the carbon tax was associated with any statistically significant effects on agricultural trade or competitiveness*” following that province’s implementation of a carbon pollution price.⁵

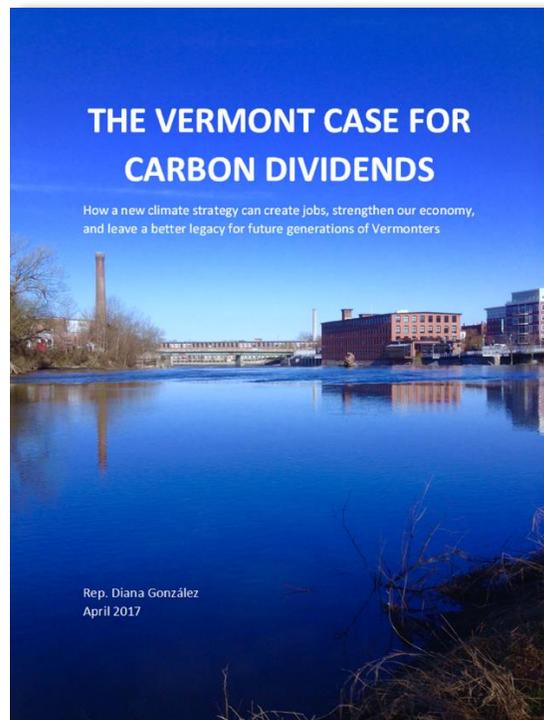
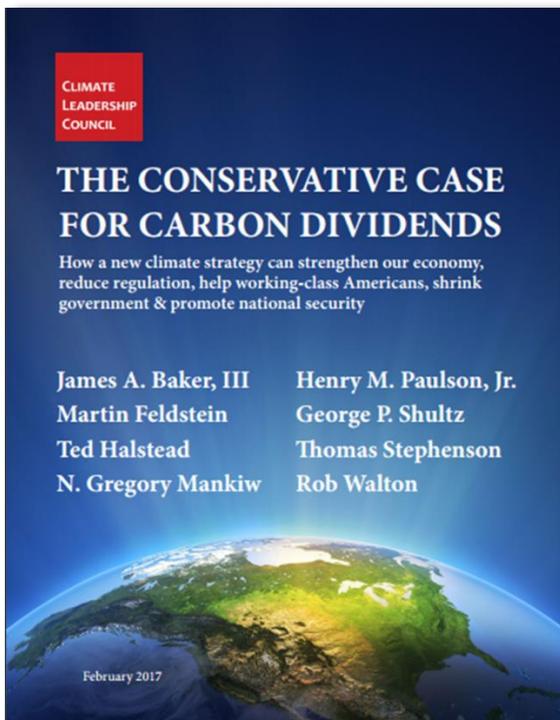
⁴ <http://www.bluesprucefarmvt.com/>

⁵ http://pics.uvic.ca/sites/default/files/uploads/publications/Carbon%20Tax%20on%20Agricultural%20Trade_0.pdf

2. BROAD IDEOLOGIC APPEAL

Carbon pollution pricing is supported by policy makers across the political spectrum. High-ranking conservatives from the Reagan and Bush administrations and liberal legislators in Vermont have all proposed carbon pricing mechanisms within the last year.

James Baker, Henry Paulson and George Shultz – all cabinet secretaries from the Reagan and Bush administrations – have called for a price on carbon pollution⁶ as has Vermont State Representative Diana González, a Progressive/Democrat from Winooski.⁷



⁶ <https://www.clcouncil.org/>

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<http://legislature.vermont.gov/assets/Documents/2018/WorkGroups/House%20Natural/Bills/H.531/H.531~Rep.%20Diana%20Gonzalez~The%20Vermont%20Case%20for%20Carbon%20Dividends~4-27-2017.pdf>

3. CLEAN ENERGY

“A tax on carbon emissions will unleash a wave of innovation to develop technologies, lower the costs of clean energy and create jobs as we and other nations develop new energy products and infrastructure.” —Henry M. Paulson, Jr.

The New York Times

A Carbon Tax Could Bolster Green Energy

Nov. 18, 2014

BROOKINGS

CUT TO INVEST

Institute a Modest Carbon Tax to Reduce Carbon Emissions, Finance Clean Energy Technology Development, Cut Taxes, and Reduce the Deficit

Nov 2012

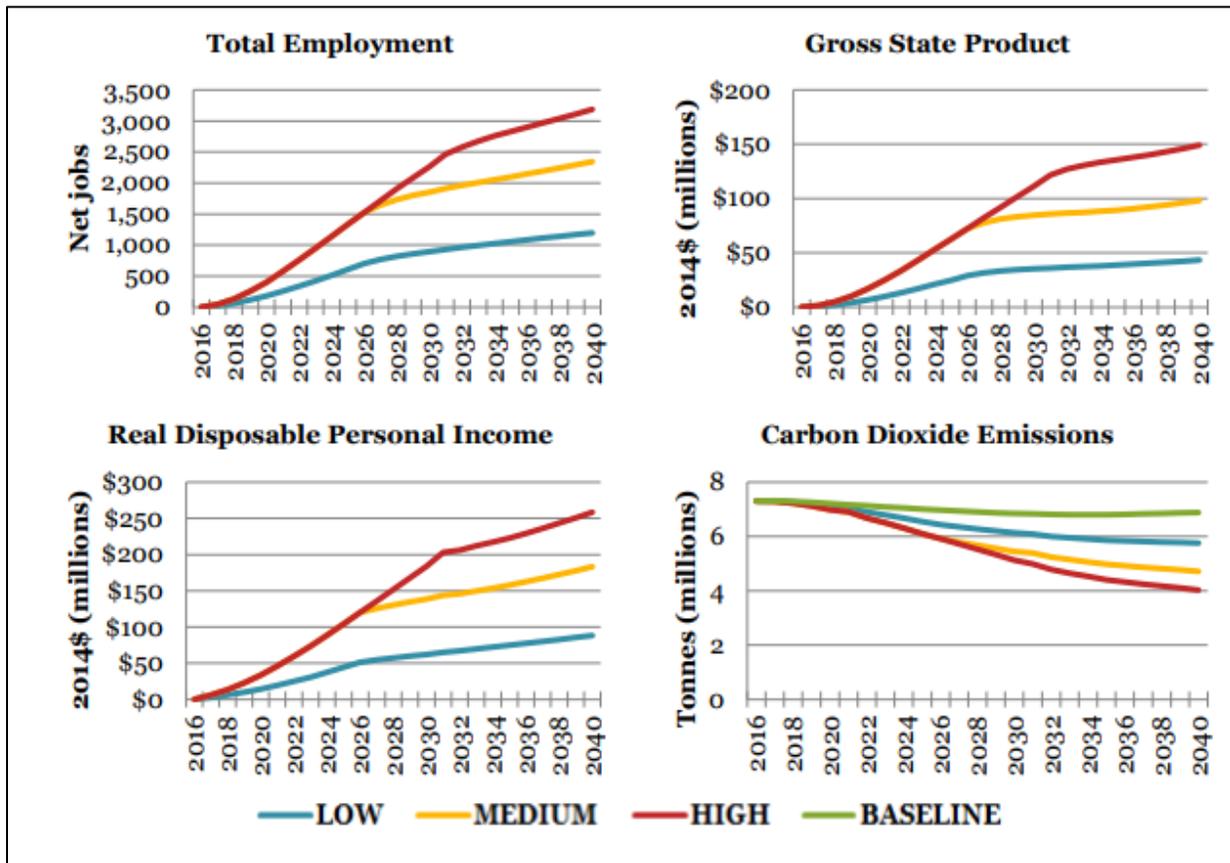
VICE

Majority of US Supports a Carbon Tax and Wants to Spend the Money on Renewable Energy

Sept 2017

4. COMMERCE & COMMUNITY DEVELOPMENT

Regional Economic Models, Inc. (REMI), which the Agency of Commerce and Community Development uses in its own analyses, has forecast that a carbon price will create jobs, grow state product, raise real disposable personal income while reducing carbon emissions.⁸



⁸ http://www.energyindependentvt.org/wp-content/uploads/2015/04/REMI_Final.pdf

A separate investigation – the *Total Energy Study* commissioned by the Department of Public Service – came to same conclusions.⁹

Scenario	Gross State Product			Employment	
	2015-2025	2025-2035	2035-2050	2015-2050	2015-2050
Carbon Tax Shift: High Bio	+0.17%	+0.87%	+0.83%	+0.69%	+1.26%
Carbon Tax Shift: Low Bio	+0.08%	+0.15%	+0.32%	+0.23%	+0.44%
TREES Basic: High Bio	+0.03%	+0.70%	+0.53%	+0.45%	+0.90%
TREES Basic: Low Bio	+0.11%	+0.11%	+0.34%	+0.23%	+0.45%
TREES Local: High Bio	+0.09%	+0.58%	+0.58%	+0.47%	+0.85%
TREES Local: Low Bio	+0.11%	+0.13%	+0.40%	+0.27%	+0.51%

Exhibit 5. Difference from BAU in modeled average annual Gross State Product and average annual employment levels for each of six scenarios, assuming the best-performing implementation of each policy.

⁹

http://publicservice.vermont.gov/sites/dps/files/documents/Pubs_Plans_Reports/TES/TES%20FINAL%20Report%2020141208.pdf

Support for Carbon Pricing in Vermont's Distribution Economy:

Black River Produce of Springfield uses 50 trucks to transport produce from Vermont farms to market. The company purchases 1200 gallons of diesel a day to keep its fleet running. Even with this heavy demand for fossil fuels, Black River Produce co-founder Mark Curran supports pricing carbon pollution.



Photo: VT Digger

6. CONSTRUCTION & DEVELOPMENT

Proper price signals help clients make good decisions. Carbon pricing helps building and construction costs tell the truth about climate impacts.

International Need

GLOBAL CLIMATE CHANGE and habitat destruction, accelerated by global settlement patterns of sprawl, pose significant challenges requiring a global response.... Timely action is both essential and presents an unprecedented opportunity (Congress of New Urbanism).¹¹

National Opportunity

Proper price signals help clients make good decisions. Carbon pricing helps building and construction costs tell the truth about climate impacts. Those price signals make it more attractive for clients to “do the right thing” and make design and construction decisions that are best for the environment. Without those price signals, architects can find it hard to persuade clients to act in the climate’s best interest. Monetizing carbon recalibrates the economics of what building systems and architectural solutions are economically feasible for reducing greenhouse gasses (AIA Seattle).¹²



Hilltop Montessori School in Brattleboro. A Stevens & Associates’ design featuring a 60,000 kWh/year PV array.

Local Support

The US Green Building Council Massachusetts Chapter supports the implementation of a [revenue-neutral carbon charge](#) to reduce the consumption of fossil fuels in Massachusetts through attaching a price on carbon emissions. The Chapter encourages professionals to design, construct and operate buildings in a manner that is economically and environmentally sustainable. They support energy efficient design and the ongoing transition from fossil fuels to renewable energy sources. Fossil fuel prices do not reflect the consequent societal costs of global warming including impacts to human health, the economy, and the natural environment. A carbon fee and dividend policy is a conservative approach that provides a predictable, steady-rising price on carbon that rewards energy efficiency and helps to reduce dependence on fossil fuels.¹³

¹¹ CANONS OF SUSTAINABLE ARCHITECTURE and URBANISM A Companion to the Charter of the New Urbanism

¹² <https://www.aiaseattle.org/wp-content/uploads/2016/03/Carbon-Pricing-Talking-Points.pdf>

¹³ <http://usgbcma.org/carbon-pricing>

7. ECONOMICS

The reason most economists support carbon pricing is that it is smart economics.

**The
Economist**

Do economists all favour a carbon tax? Most do, with good reason

From The Economist, 2011¹⁴:

Carbon emissions represent a negative externality. When an individual takes an economic action with some fossil-fuel energy content—whether running a petrol-powered lawnmower, turning on a light, or buying bunch of grapes—that person balances their personal benefits against the costs of the action. The cost to them of the climate change resulting from the carbon content of that decisions, however, is effectively zero and is rationally ignored. The decision to ignore carbon content, when aggregated over the whole of humanity, generates huge carbon dioxide emissions and rising global temperatures.

The economic solution is to tax the externality so that the social cost of carbon is reflected in the individual consumer's decision. The carbon tax is an elegant solution to a complicated problem, which allows the everyday business of consumer decision making to do the work of emission reduction.

theguardian 95% consensus of expert economists: Cut carbon pollution

A survey of economists with climate expertise finds a consensus that climate change is expensive and carbon pollution cuts are needed

- 81% of economists with climate expertise agree that a market-based system (carbon tax or cap and trade system) would be the most economically efficient method of reducing carbon pollution.¹⁵

The following is a partial list of distinguished economists who support carbon pricing¹⁶:

Alan Blinder
Herman E. Daly
Jon Erickson
Robert Frank
Edwin Glaeser
Dale Jorgensen

Arthur Laffer
Gregory Mankiw
Gilbert Metcalf
Adele Morris
Paul Portney
Robert Reich

Jeffrey Sachs
Lawrence Summers
Joseph Stiglitz
Richard Thaler
Paul Volker
Gary Yohe

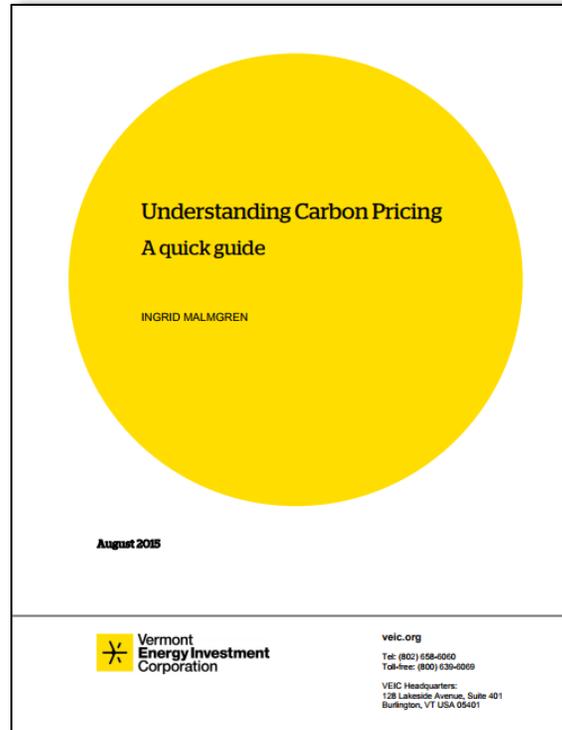
¹⁴ <https://www.economist.com/blogs/freeexchange/2011/09/climate-policy>

¹⁵ <https://www.theguardian.com/environment/climate-consensus-97-per-cent/2016/jan/04/consensus-of-economists-cut-carbon-pollution>

¹⁶ <https://www.carbontax.org/scientists-economists/>

8. ENERGY EFFICIENCY

*“Paying for the true cost of [carbon] emissions might be the most effective policy mechanism to slow down GHG emissions.” (Understanding Carbon Pricing: A quick guide, published by the Vermont Energy Investment Corporation, August 2015).*¹⁷



Pollution has its costs

For decades, the growing demand for energy has led to an increase in greenhouse gas (GHG) emissions and emissions from other substances, many of which are toxic in the concentrations with which they are released.

Since its creation in 1970, air quality regulations and enforcement actions by the U.S. Environmental Protection Agency have led to substantial improvements in air quality. However, damage from GHG emissions, generally agreed to be at the root of climate change, is a persistent problem.

Paying for the true cost of these emissions might be the most effective policy mechanism to slow down GHG emissions.

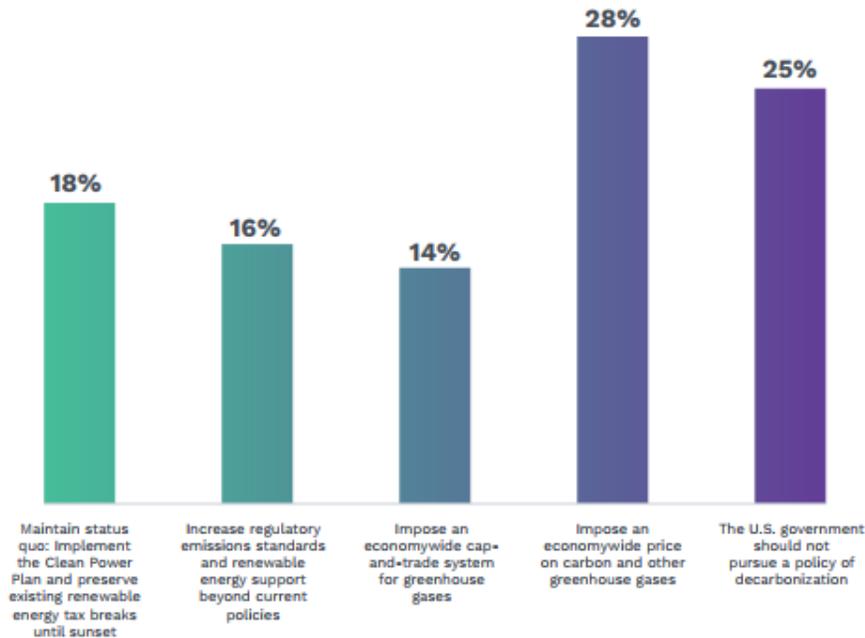
¹⁷ <https://www.veic.org/docs/resourcelibrary/Understanding-Carbon-Pricing-08-2015.pdf>

9. ENERGY UTILITIES

Carbon pricing is the preferred approach to carbon emissions reductions among electric utility leaders nationally and is gaining steam regionally.

2017 State of the Electric Utility Survey¹⁸

In your opinion, how should the U.S. federal government approach decarbonization policy?



POLITICO: New York's energy leaders lay out an early blueprint for carbon pricing

Carbon pricing is seen by many in industry and environmental advocacy as a crucial step in cutting carbon emissions from all sectors and the country's best hope to mitigate some of the worst effects of climate change. While action on the federal level is virtually non-existent, states like New York and California are increasingly stepping in to design carbon pricing schemes they hope can serve as models for the rest of the U.S.

The report, issued by the state's grid operator, finds that including the social cost of carbon emissions in New York's electricity prices could support the state's clean energy goals with a minimal impact on costs to consumers and may actually reduce electricity prices.¹⁹

¹⁸ https://s3.amazonaws.com/dive_assets/r/psys/SEU_2017.pdf

¹⁹ <http://www.politico.com/states/new-york/albany/story/2017/08/11/new-york-utility-regulator-grid-operator-agree-to-study-carbon-pricing-in-electricity-market-113884>

10. ENVIRONMENT

Carbon pricing is the best solution to climate change.



National Wildlife Federation's BIPARTISAN PRINCIPLES ON CARBON PRICING²⁰

1. Put emissions on a path to help keep global temperature increases well below 2 degrees Celsius (with an aspiration of below 1.5 degrees Celsius).
2. Establish a single, economy-wide system to price GHG emissions.
3. Include a mechanism to review and require mandatory adjustments to the price to achieve emissions reductions goals.
4. Protect low-income individuals and communities most vulnerable to the impacts of climate change.
5. Invest in transition for affected workers, families, and communities.
6. Invest in wildlife and natural resources.
7. Preserve the competitiveness of U.S. business and labor.
8. Protect authority to reduce carbon pollution through other means, but recognize redundancies.

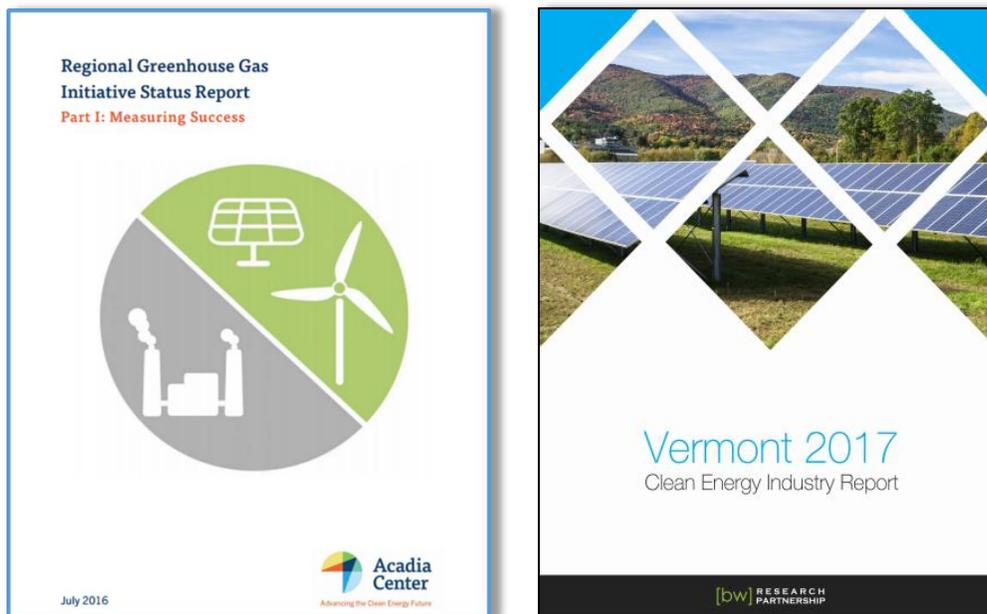
These are just a few of the national environmental organizations that support carbon pollution pricing: Environmental Defense Fund, The Nature Conservancy, The Sierra Club, the National Wildlife Federation, and 350.org.

²⁰ http://vnrc.org/wp-content/uploads/2017/09/CarbonPricing2_150dpi.pdf

11. EXPERIENCE

Vermont already prices carbon pollution in its electric supply through the Regional Greenhouse Gas Initiative.

Republican Gov. Jim Douglas authorized Vermont's first price on carbon pollution in the electric sector by joining the Regional Greenhouse Gas Initiative – and it is working. The economies in the nine RGGI states are growing faster – and emissions from the electric sector are falling faster – than in those states outside the compact.²¹



As the Vermont 2017 Clean Energy Industry Report notes, “since 2013, clean energy employment has grown by 29 percent in Vermont, which amounts to a total of just over 19,000 jobs.”²²

RGGI is a carbon pollution pricing mechanism Vermont policy makers should study and apply the lessons learned to reducing carbon pollution in Vermont's transportation and thermal sectors.

²¹ <http://acadiacenter.org/rggis-success-continues-region-outpacing-the-rest-of-the-country-on-emissions-and-economics/>

²²

http://publicservice.vermont.gov/sites/dps/files/documents/Renewable_Energy/CEDF/Reports/VCEI%20Report%202017.pdf

12. FORESTRY & FOREST PRODUCTS

A carbon price on fossil fuels would strengthen Vermont’s forestry and forest products economy by driving up demand for biomass heating as it become more financially attractive in the energy marketplace, as these regionally- and sustainably-harvested fuels would be exempt from a pollution price on fossil fuels.

Biomass Energy Research Center: Use of biomass for energy-efficient and appropriately scaled applications has tremendous potential to displace fossil fuels and, over the long term, lower atmospheric CO2 emissions. Biomass energy used in this manner is a “low-carbon fuel,” and, integrated with the sustainable fuel supply, has the potential to be a net carbon sequestering option, even when considering the fossil fuels used in production and transportation of wood fuel and agricultural production.²³

Additionally, carbon pricing is a global strategy to slow deforestation:



Carbon Pricing Can Help Save Forests—and the Climate— —Analysis Says

While some caution a tax on carbon won't fix everything, new research shows it can significantly slow deforestation.²⁴

²³ <http://www.biomasscenter.org/policy-statements/FSE-Policy.pdf>

²⁴ <https://insideclimatenews.org/news/25082015/carbon-pricing-can-save-forests-climate-deforestation-emissions>

13. FUELS SECTOR

Carbon pricing is the preferred policy of the fossil fuel industry to reduce carbon emissions, with the following companies endorsing a price on carbon:



“Climate change is happening. We think a broad-based carbon price is the right answer.” — *Steve Williams*, head of Suncor, Canada’s largest oil company, [May 2015](#).

“One option being discussed by policy makers is a national revenue-neutral carbon tax. This would promote greater energy efficiency and the use of today’s lower-carbon options, avoid further burdening the economy, and also provide incentives for markets to develop additional low-carbon energy solutions for the future.” — *Darren Woods*, CEO of Exxon Mobil, [February 2017](#).

“Carbon-pricing systems encourage the quickest and most efficient ways of reducing emissions widely.” — *Ben van Beurden*, CEO of Royal Dutch Shell, [October 2015](#).

“Carbon pricing will be a critical component in the world’s battle to tackle climate change. Putting a price on carbon will reflect its cost to society. It creates transparency among carbon producers and will encourage the development of more efficient carbon reduction technologies.” — *Helge Lund*, CEO of BG Group, [November 2015](#).

“In my opinion, and in my company’s opinion, there is no doubt the world is moving to a lower carbon economy. I support a broad-based carbon levy applied as equitably as is possible.”— *Brian Ferguson, president and CEO of Cenovus, April 2017.*

In Vermont:

Locally, innovative (and mostly family-owned) Vermont fuel dealers – like Bourne’s Energy – are beginning to offer biodiesel blends.

Bourne’s Energy: BioHeat is a heating oil that burns and costs the same as fossil fuel oil, but is much cleaner. BioHeat cannot be made without BioDiesel. BioDiesel is made locally from recycled restaurant oils (food then fuel) and blended with traditional fossil fuel heating oil making BioHeat.²⁵

Bourne’s Energy has already delivered over 1,000,000 gallons of biodiesel to its customers in northern Vermont.

A well-crafted carbon pollution price for the Vermont context could exempt the biodiesel percentage in blended heating fuels accelerating the adoption and deployment of this lower-carbon alternative.



²⁵ <https://www.bournesenergy.com/heating-fuels/bioheat>

14. HEALTH CARE

Carbon pricing saves lives and money.²⁶

RGGI IMPROVES HEALTH IN THE NORTHEAST

New, independent study shows people in the Northeast avoid premature deaths, heart attacks, and respiratory illnesses

SAVING LIVES AND IMPROVING HEALTH

From 2009-2014, the Regional Greenhouse Gas Initiative (RGGI) has significantly reduced air pollution from fossil fuel power plants, improving the health of people living in the Northeast. Residents in this region are now experiencing significantly fewer premature deaths, heart attacks, and respiratory illnesses. RGGI is the first regional market-based carbon trading program in the US.

<p>\$5.7 BILLION</p> <p>RGGI has generated in health savings and other benefits</p> 	<p>300 to 830 PREMATURE DEATHS AVOIDED</p> 
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²⁶ <http://abtassociates.com/AbtAssociates/files/b5/b5877259-f892-4d15-8334-b92e24ccf330.pdf>

15. LOCAL GOVERNMENT

The Canadian province of British Columbia has had a carbon price in place for more than a decade, and it is working to strengthen the economy and drive down emissions. Local municipal leaders support the price and the provincial government recently announced that it will be increasing the cost per ton of carbon pollution.

What are municipal leaders saying about the price on pollution?²⁷

"At the end of the day, the more that cost on carbon is clearly understood by staff and clearly linked to operations, the better the job staff will do to reduce those costs. Furthermore, there is no question that the bigger the carbon tax value, the stronger case for the low carbon solution". - Ted Battiston, Manager of Special Projects, Whistler

"We were clear that we were striving to find a way put a price on the environmental impacts - so lifecycle costing was one, and the carbon tax made that conversation quite a bit easier when it was implemented" - Emanuel Machado, former Director of Corporate Planning and Sustainable Development, City of Dawson Creek

"The carbon tax was included in the financial analysis and helped the staff understand the potential savings associated with displacing natural gas and using a renewable source of energy instead. The tax was an external mechanism that helped us quantify the economic differences between 'business as usual' and green infrastructure innovation.."- Sarah Webb, Climate Action Coordinator CRD

"By having the carbon tax in place, we can say that these energy efficient features will save us money, because we have to pay the tax every year based on how much fossil fuel we consume. Without the tax, I think there is less of an argument for why municipal governments are even in the business of energy efficiency in general" - Marty Paradine, Community Energy Manager, Fort St. John

²⁷ <https://www.pembina.org/>

16. MANUFACTURING SECTOR

Many of Vermont's iconic businesses and manufacturers already support carbon pricing. From *The Burlington Free Press*, December 10, 2015:

TACKLING CLIMATE CHANGE IS ONE OF VERMONT'S GREATEST ECONOMIC OPPORTUNITIES OF THE 21ST CENTURY AND IT'S SIMPLY THE RIGHT THING TO DO

We, business leaders of Vermont, believe that climate change poses a real threat to our state's economy, the environment and the long term well being of our citizens. We endorse the Climate Declaration because we support **INVESTMENT IN A LOW CARBON ECONOMY, PROMOTION OF ENERGY EFFICIENCY AND RENEWABLES, AND A PRICE ON CARBON POLLUTION**. We commit to putting these principles to practice in recognition of the economic opportunities associated with reducing our greenhouse gas emissions, the development of renewable energy and alternative fuels and the preservation of our environment for ourselves and for future generations.

JOIN US → www.climatedeclaration.us/vermont ← supported by:

WHAT MADE AMERICA GREAT WAS TAKING A STAND. Doing the things that are hard. And seizing opportunities. The very foundation of our country is based on fighting for our freedoms and ensuring the health and prosperity of our state, our community, and our families. Today those things are threatened by a changing climate that most scientists agree is being caused by carbon pollution. We cannot risk our economic prosperity nor our children's kids' futures on the false hope that the vast majority of scientists are wrong. Just as America rose to the great challenges of the past and came out stronger than ever, we have to confront this challenge, and we have to win. And in doing this right, by saving money when we use less electricity, by driving a more efficient car, by choosing clean energy, by inventing new technologies that other countries buy, and creating jobs here at home, we will maintain our way of life and enhance our economy and prosperity. In order to make this happen, however, there must be a coordinated effort to combat climate change — with America and Vermont taking the lead here at home. **LEADING IS WHAT WE DO!**

GARDENER'S SUPPLY COMPANY **THE ALCHEMIST** **DYNAPOWER** COMPANY **native energy** **aegis** RENEWABLE ENERGY

BURTON **Sugarbush** by DeBorja **seventh generation** **BEN & JERRY'S** **KING ARTHUR FLOUR**

17. THE MORAL IMPERATIVE

All the major faiths in the US have very powerful statements on the climate, and all say we have a moral obligation to do something about it now.²⁸ Vermont Interfaith Power & Light supports a price on carbon pollution.²⁹

Laudato Si, Pope Francis: “There is an urgent need to develop policies so that, in the next few years, the emission of carbon dioxide and other highly polluting gases can be drastically reduced, for example, substituting for fossil fuels and developing sources of renewable energy.”³⁰

An Evangelical Call to Action: “In the United States, the most important immediate step that can be taken at the federal level is to pass and implement national legislation requiring sufficient economy-wide reductions in carbon dioxide emissions through cost-effective, market-based mechanisms....”³¹

A Rabbinic Letter on the Climate Crisis signed by over 400 American Rabbis: “One way of addressing our own responsibility would be for households, congregations, denominations, federations, political action to Move Our Money from spending that helps these modern pharaohs burn our planet to spending that helps to heal it. For example, these actions might be both practical and effective:

§ Convincing our legislators to institute a system of carbon fees and public dividends that rewards our society for moving beyond the Carbon economy.³²

United Church of Christ General Synod 2013 :“Beyond Fossil Fuels” Resolution: Demands “action from legislators and advocate for the creation and enforcement of carbon-reducing laws.”³³

Unitarian Universalist Association 2006 Statement of Conscience on the Threat of Global Warming/Climate Change: Advocacy Goals: Policies and practices that reduce greenhouse gas emissions and increase forestation and other forms of carbon dioxide sequestration.³⁴

United Methodist Church; What we Believe: The adverse impacts of global climate change disproportionately affect individuals and nations least responsible for the emissions. We therefore support efforts of all governments to require mandatory reductions in greenhouse gas emissions and call on individuals, congregations, businesses, industries, and communities to reduce their emissions.³⁵

Friends Committee on National Legislation: Pricing and policy decisions for all forms of energy extraction, production and use should reflect their true economic, environmental and social costs.³⁶

²⁸ <https://citizensclimatelobby.org/laser-talks/statements-faith-groups/>

²⁹ <http://www.vtipl.org/>

³⁰ http://w2.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html

³¹ <http://www.christiansandclimate.org/statement/>

³² <https://theshalomcenter.org/civicrm/petition/sign?sid=17>

³³ <http://ucfunds.org/beyond-fossil-fuels/quarterly-reports/general-synod-2013-resolution/>

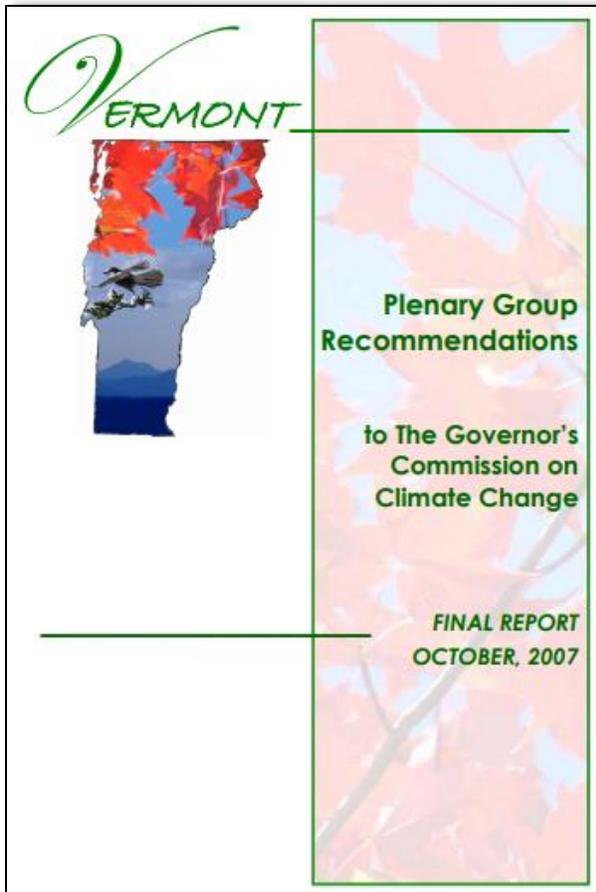
³⁴ <http://www.uua.org/action/statements/threat-global-warmingclimate-change>

³⁵ <http://www.umc.org/what-we-believe/the-natural-world>

³⁶ <https://www.fcni.org/updates/the-world-we-see-25>

18. NATURAL RESOURCES

In 2007 the Agency of Natural Resources managed The Governor's Commission on Climate Change Plenary Group process which unanimously recommended carbon pricing.³⁷



More than a decade ago, Republican Governor James Douglas formed The Governor's Commission on Climate Change and convened a larger Plenary Group (PG) to diversify the expertise and perspectives of those involved in this effort. Governor Douglas appointed 31 stakeholders, representing a broad range of interests, backgrounds, and capabilities to carry out a year-long process to provide analysis and recommendations on GHG reduction measures.

The Vermont Department of Environmental Conservation (DEC) organized the analysis process on behalf of the Governor. DEC's Air Division managed logistics and provided technical reviews. With oversight from DEC, the Plenary Group followed a consensus-building process designed and implemented by the nonprofit Center for Climate Strategies (CCS).

That plenary group process unanimously recommended carbon pollution pricing.

37

http://climatechange.vermont.gov/sites/climate/files/documents/Data/GCCC%20Appendix%202_Plenary_Group_Recommendations_Appendices.pdf

Recommendation: ESD-7. GHG Cap-and-Trade and/or GHG Tax

Policy Design

The major policy design options include

- A carbon tax for fossil fuel sources, with the revenue collected from a carbon tax targeted toward funding programs that reduce Vermont's overall carbon footprint; and
- Creation of a state-level GHG cap-and-trade program for other sectors of the Vermont economy with auctioning of permits and with revenues targeted toward funding programs that will reduce Vermont's overall carbon footprint.

The policy might also entail strengthened linkages between state GHG reduction policies and other programs such as RGGI and CCX, recognizing more non-electric sector initiatives as RGGI offsets, or allowing the trading of credits among RGGI-certified state GHG cap-and-trade programs.

Goals: The goals of the policy will be set to scale the revenues to be commensurate with the funding needs of the various measures included in the GCCC portfolio.

Timing: Consistent with the public funding requirements.

Parties Involved: All major emitting sectors.

Other: Not applicable.

Implementation Mechanisms

The implementation mechanism would depend on whether a GHG cap or GHG tax mode is adopted. Further details are pending.

Related Policies/Programs in Place

Vermont is already part of the 9-state RGGI currently located only in the northeastern United States. Vermont was also the first state to establish legislation adopting the implementing framework for RGGI.

In implementing the framework, Vermont has already allocated 100% of the revenues generated from the program toward consumer benefits, including directing program funds toward energy efficiency programs covered by ESD-1 or using funds in ways that may reduce rates or foster non-emitting resources.

While RGGI is structured to permit and even encourage adoption by other states and regions, RGGI is currently limited in scope both geographically and to just one sector of the economy. RGGI covers only the electric sector and is limited to large commercial generating stations over 25 MW in size.

Not addressed through RGGI are the carbon emissions from transportation, home and commercial heating, and industrial processes that depend on sources of energy other than electricity. Some carbon emissions are also capped for a number of organizations through the voluntary CCX.

Type(s) of GHG Reductions

Net reduction in CO₂ emissions from reduced energy consumption due to energy price effects and corresponding policies (as per full portfolio of options).

Estimated GHG Savings and Costs per MtCO₂e

Data Sources: RGGI, EIA, eGRID (EPA's Emissions & Generation Resource Integrated Database).

Quantification Methods: For the sake of quantification, this measure is considered a GHG tax, with the goal defined as generating a level of revenue that can contribute significantly toward meeting the funding requirements of the GHG reduction policies for which there are positive costs.

Key Assumptions: As above.

Key Uncertainties

None identified.

Additional Benefits and Costs

None identified.

Feasibility Issues

None identified.

Status of Group Approval

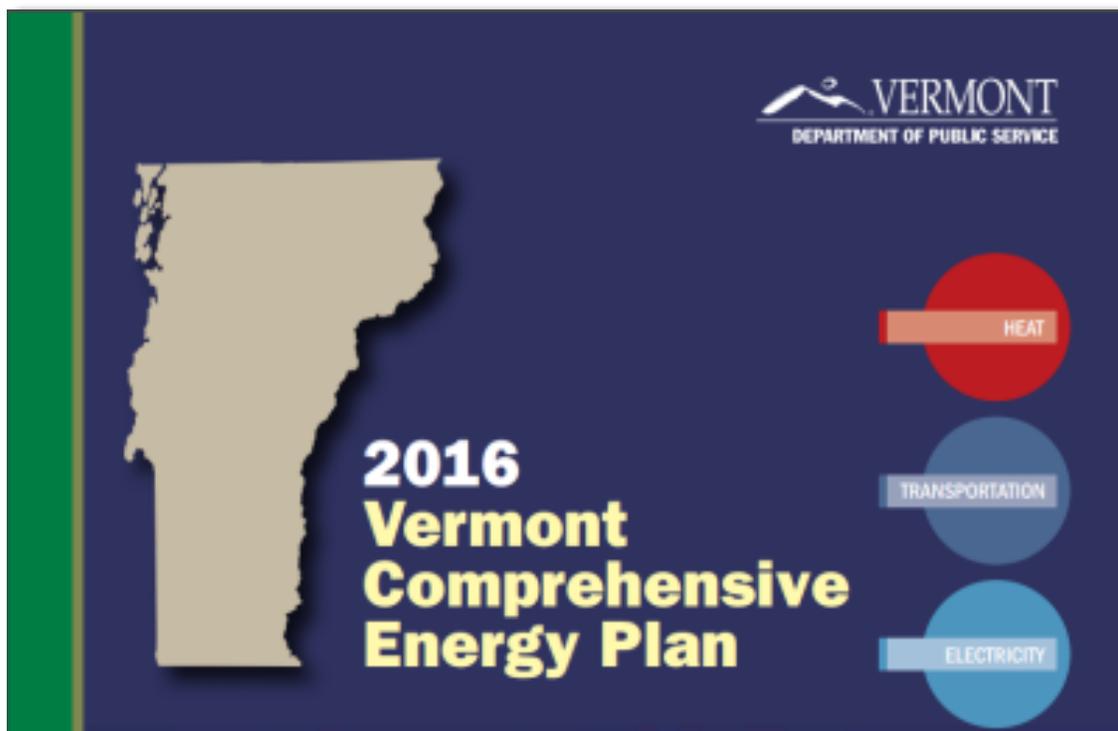
Complete; referred to the GCCC as primarily a funding mechanism.

Level of Group Support

Unanimous consent.

19. PUBLIC SERVICE

The 2016 Vermont Comprehensive Energy Plan recommends carbon pricing and the Department of Public Service *Total Energy Study* found that carbon pricing would reduce carbon pollution, increase GDP, and create 2,260 to 6,400 new jobs in Vermont.³⁸



From the Executive Summary of the Vermont Comprehensive Energy Plan:

Vermont should work with other states and provinces in our region, building upon existing regional initiatives, to investigate and pursue options for market-based GHG emission policies that integrate with the other approaches described in this CEP, and consistent with the principles regarding revenue recycling, pace, equity and competitiveness detailed in this plan.

38

http://publicservice.vermont.gov/sites/dps/files/documents/Pubs_Plans_Reports/State_Plans/Comp_Energy_Plan/2015/2016CEP_ES_Final.pdf



Total Energy Study: Final Report on a Total Energy Approach to Meeting the State’s Greenhouse Gas and Renewable Energy Goals

Vermont Public Service Department

December 8, 2014

From the *Total Energy Study*: 2,260 to 6,400 new jobs³⁹:

Scenario	Gross State Product			Employment	
	2015-2025	2025-2035	2035-2050	2015-2050	2015-2050
Carbon Tax Shift: High Bio	+0.17%	+0.87%	+0.83%	+0.69%	+1.26%
Carbon Tax Shift: Low Bio	+0.08%	+0.15%	+0.32%	+0.23%	+0.44%
TREES Basic: High Bio	+0.03%	+0.70%	+0.53%	+0.45%	+0.90%
TREES Basic: Low Bio	+0.11%	+0.11%	+0.34%	+0.23%	+0.45%
TREES Local: High Bio	+0.09%	+0.58%	+0.58%	+0.47%	+0.85%
TREES Local: Low Bio	+0.11%	+0.13%	+0.40%	+0.27%	+0.51%

Exhibit 5. Difference from BAU in modeled average annual Gross State Product and average annual employment levels for each of six scenarios, assuming the best-performing implementation of each policy.

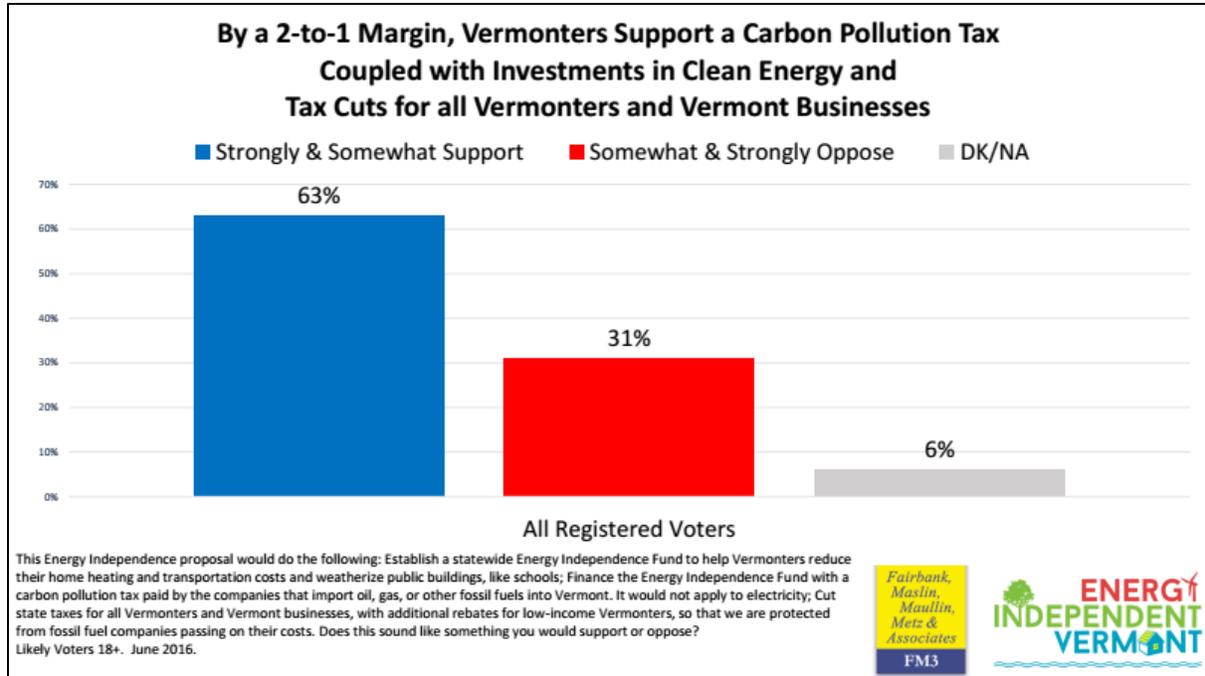
39

http://publicservice.vermont.gov/sites/dps/files/documents/Pubs_Plans_Reports/TE/TE%20FINAL%20Report%2020141208.pdf

20. PUBLIC SUPPORT

Vermonters support the concept of carbon pollution pricing.

In every professional survey released to the public over the last two years, Vermonters have expressed consistent support for carbon pricing as a means to lower Vermont's contributions to global warming.

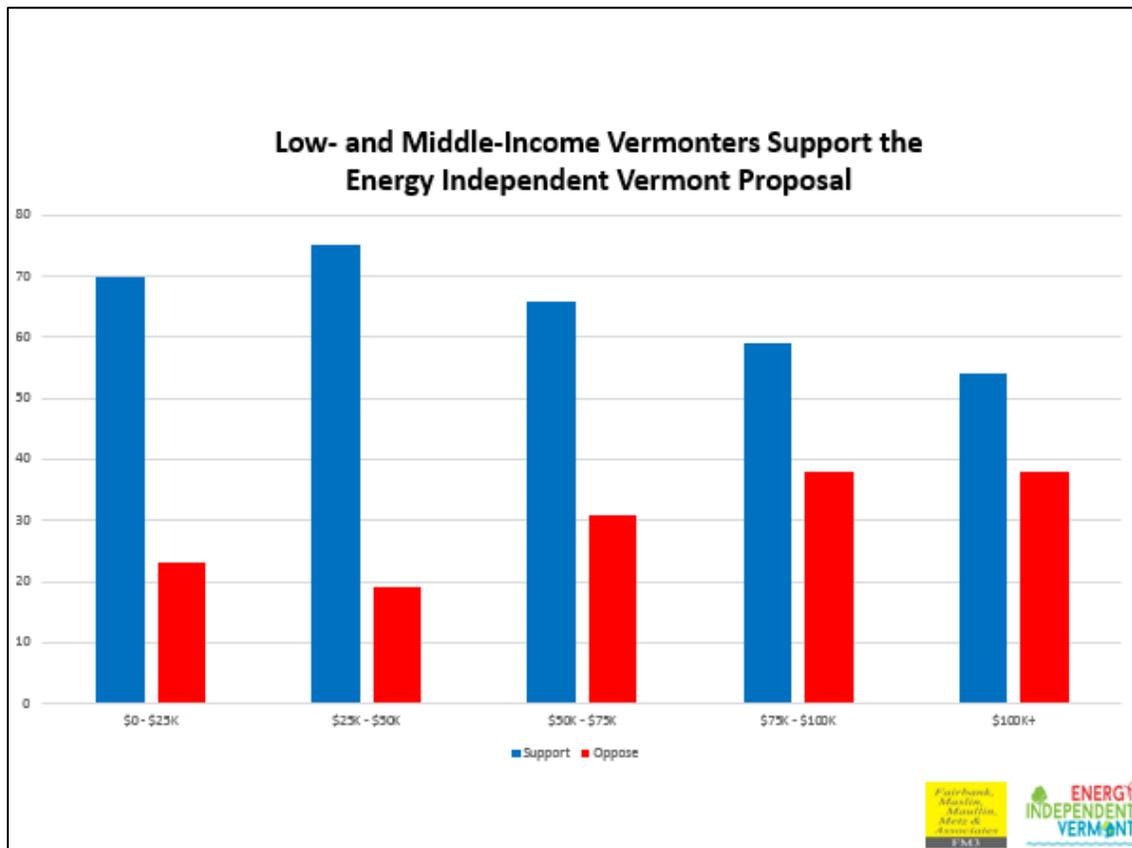


- An Energy Independent Vermont survey in June found 2-to-1 support for a “carbon pollution tax” coupled with investments in clean energy and tax cuts for every Vermonter and Vermont business. Support for the Energy Independent Vermont proposal is strongest amongst low- and middle-income Vermonters – though the proposal won more support than opposition among every income quintile.⁴⁰
- A WCAX poll two weeks prior to the November 2016 election found 50%-46% support for a “Vermont carbon tax.” It is worth noting that the wording of the WCAX question neglected to mention the associated tax cuts, dividend checks or investments in clean energy a carbon pollution price would allow.⁴¹

⁴⁰ [Energy Independent Vermont](#)

⁴¹ <http://www.wcax.com/story/33465251/wcax-poll-shows-phil-scott-pulling-ahead>

- A Vermont Agency of Transportation study with a sample size of nearly 2500 conducted in the winter of 2016 investigated potential funding mechanisms for long-range transportation plans and found that, “Respondents reported that the most acceptable alternative funding mechanism to the current state motor fuel tax is a tax based on vehicle carbon emissions.”⁴²
- A VTDigger/Castleton poll in February of 2015 – which also focused only on the costs of carbon pricing, not the benefits – found the same margin of support for carbon pricing as the WCAX survey 20 months later.⁴³



⁴²

<http://vtrans.vermont.gov/sites/aot/files/planning/documents/planning/VTrans%20LRTP%20Survey%20Report%20Final%202016.pdf>

⁴³ <http://vtdigger.wpengine.com/majorprojects/complete-vtdiggercastleton-polling-institute-results/>

21. RESEARCH & DEVELOPMENT

"We face unprecedented environmental and social challenges. Markets get distorted by perverse subsidies and incumbent resistance so that the price signals that should drive innovation are delayed or deferred."⁴⁴

The Vermont Climate Action Commission can address this market failure.

Earth Day 2012: On Becoming a Skeptical Optimist

By [Stuart L. Hart](#)



The time has come to end the ideology wars.

For too long, discussion about environmental and social challenges has been divided into two camps: The Neo-Malthusians ([here](#) and [here](#)) and the Cornucopians ([here](#) and [here](#)).

The former foresee *gloom and doom*--an imminent global train wreck driven by climate change, resource depletion, ecosystem destruction, and a combination of growing population and inequality. The latter foresee an unprecedented *boom* driven by the creativity and innovation of an increasingly sophisticated and interconnected global economy with millions of new, well-educated people from the emerging markets of the world.

The Neo-Malthusians are the ultimate pessimists ("limits to growth"); the Cornucopians are unabashed optimists ("growth of limits"). The Neo-Malthusians project current trends into the

⁴⁴ <http://stuartlhart.com/blog/2012/04/earth-day-2012-on-becoming-a-skeptical-optimist.html>

future and see disaster. The Cornucopians assume that technology will always produce the necessary substitutes and solutions when we need them (because scarcity means higher prices and higher prices signal opportunity for innovators).

It turns out both are probably right: **We face unprecedented environmental and social challenges. Markets get distorted by perverse subsidies and incumbent resistance so that the price signals that should drive innovation are delayed or deferred.** Humans have difficulty perceiving gradual, slow-developing changes and tend to wait for crises before acting (the "[boiled frog](#)" syndrome). *So there probably will be major disruptions and unpleasant surprises in the years ahead.*

That said, humans are also infinitely adaptable, resilient, and able to mobilize rapidly when a real crisis is finally perceived. The level of creativity and inventiveness is astonishing, and we are adding millions of creative people to the stock of potential problem solvers every year. The internet enables connectivity and exchange on a scale that we could not have previously imagined. The engine of entrepreneurial capitalism is powerful and should not be underestimated. *So, there is every reason to believe that amazing things will happen that totally change the landscape for the better in the coming decade or two.*

Just like the Democrats and Republicans in the United States need to set aside their petty ideological differences for the good of the country (and the world), it is also time for reconciliation and synthesis between the Neo-Malthusians and the Cornucopians.

Such reconciliation means that we need to learn how to become "skeptical optimists"--optimists because of the potential for new, sustainable technologies to grow exponentially in the coming years (see, for example, [Singularity University](#)); skeptical because of the scale and scope of the challenges we face. *Skeptical optimism gives us the perspective we need to solve the world's social and environmental problems through a new form of sustainable entrepreneurship and enterprise. And the time is now.*

As the Organization for Economic Co-Operation and Development writes, "Speeding up the emergence and deployment of low-carbon technologies will ultimately require increases in – and reallocation of – the financial resources channeled into energy related R&D. However, "relying on R&D policy alone (in the absence of a carbon price) would not be enough to reduce emissions sufficiently" to achieving the UN's 2⁰C target.⁴⁵

The same can be said for Vermont. R&D alone is essential, but is unlikely to reduce GHG emissions enough to reach the state's goals. A carbon price is a necessary complimentary policy.

⁴⁵ The Economics of Climate Change Mitigation, 2012

22. RURAL DEVELOPMENT

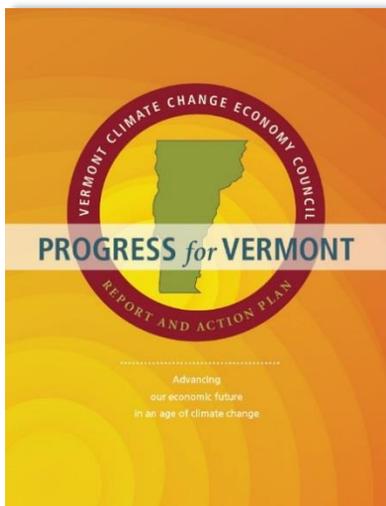
A carbon pricing system would reduce Vermont's carbon emissions while providing resources to invest in the progress of Vermont's economy.

From Progress for Vermont: Advancing our economic future in an age of climate change, The Action Plan of the Vermont Climate Change Economy Council – January 2016⁴⁶:

Vermont has a tremendous opportunity to systematically advance economic activity that addresses the challenge of climate change by reducing and mitigating carbon impacts while spurring innovation and creativity, encouraging entrepreneurship, attracting youth and building jobs for the future. The Vermont Climate Change Economy Council (VCCEC) was founded in February 2015 by the Vermont Council on Rural Development to frame a platform of ideas to move this economy forward....

To take responsible leadership in mitigating Vermont's climate impact and to fully realize the potential for economic renewal, the VCCEC final report and action plan proposes....:

[That the General Assembly] Evaluate effective ways to send market signals to reduce carbon use and to simulate economic development through a Carbon Pricing or Trading structure for Vermont....



Carbon Pricing

VCCEC encourages the Vermont legislature to consider a carbon pricing system that would reduce our carbon emissions and invest in the progress of Vermont's economy. Recognizing the uncertainty of a new pricing structure and the challenges it may present, the Council encourages the Vermont legislature to evaluate the following potential provisions and considerations for carbon pricing:

Ensuring Equity

VCCEC acknowledges the concern that putting a price on carbon could negatively impact low income Vermonters. A carbon pricing structure should provide offsets for any regressive burden on low-

income families and ensure a smooth transition for those who will be most vulnerable through low income tax rebates and weatherization programs.

Offsetting the Impact on Businesses and the Average Vermonter

Targeted tax reforms and/or tax offsets could balance the impact of carbon pricing on Vermonters, farms, manufacturers, and regional commerce (especially in border areas), to maintain Vermont's

⁴⁶ <http://vtrural.org/sites/default/files/content/ClimateEconomy/ProgressForVermont.pdf>

competitive position, to provide benefits to Vermont consumers, and to support Vermont's existing businesses.

Predictability and Gradual Implementation

A carbon pricing system must be implemented gradually, in a clear and predictable manner to allow businesses and households to plan and adapt.

Realizing Immediate Economic Benefits

Leveraging capital through a revenue bond against projected carbon pollution price revenue could allow for investments in economic development and efficiency measures to begin in the first year of implementation, immediately boosting economic opportunity, job creation, and efficiency improvements.

Expanding Economic Opportunities and Creating Jobs

Revenue generated from pricing carbon pollution could be used to boost and support the climate economy and a transition to a less carbon intensive future in the following ways:

- **Residential Rebates:** Tax rebates for residential clean energy development and for single and multi-family home energy efficiency and retrofits could save energy and money for middle income Vermonters and create jobs. These initiatives could be coordinated and carried out by Vermont's Comprehensive Energy Efficiency Partnership and/or the Climate Economy Finance Collaborative as described in other sections of the VCCEC platform recommendations.
- **Business Rebates:** Business tax rebates could support businesses in making efficiency improvements and developing new energy sources.
- **Transportation Shifts:** Tax credits or incentives could support transportation efficiencies for the home and business, such as the purchase of electric vehicles, public transportation, and shared mobility.
- **Business Development:** Revenue could be invested in climate economy business incubation and entrepreneurship through the Climate Economy Network Development Initiative described earlier in this report. This would jumpstart innovative small business development in climate economy sectors ranging from recycling and agriculture to energy project development.
- **Farm and Forest Enterprise Support:** In recognition of the crucial role of the forest and agriculture in sequestration and resiliency, carbon pricing revenue could be used to support shifting practices on farms, encouraging climate smart tillage practices, manure digestion and energy development, composting and other natural resource management. Farm and forest business transition rebates could also be made available to prevent fossil fuel price increases from undermining their economic viability.

23. SMALL BUSINESS

A well-designed carbon pollution pricing system benefits both the environment and the economy.⁴⁷



Vermont Businesses
for Social Responsibility

PEOPLE, PLANET, PROFIT: THE VERMONT BUSINESS CASE FOR CARBON PRICING

“You can’t run a healthy business on a sick planet.”

-John Replogle, President & CEO, Seventh Generation

As shown in states and countries around the world, a well-designed carbon pollution pricing system benefits both the environment and the economy.

Why Vermont Businesses Support Carbon Pollution Pricing:

JOBS: Vermont employs over 17,000 workers in clean energy and energy efficiency – and this sector of our economy is growing 10x faster than the workforce as a whole. We lead the nation in solar jobs per capita. Leveling the playing field between fossil fuels and renewable energy plays to Vermont’s strengths and facilitates **job growth**. The Department of Public Service’s *Total Energy Study* forecasts 2,260 to 6,400 new Vermont jobs depending on the design of a carbon pricing program.

A STRONGER ECONOMY: Since the turn of the 21st century Vermont’s economy has begun to “decouple” from fossil fuels. In other words, the state has reduced its carbon pollution emissions by almost 13%, while Vermont’s real GDP has grown by almost 23% – the fastest rate in New England. It’s easy to see why decoupling is good for Vermont’s economy – all fossil fuels used in Vermont are imported. According to the *Comprehensive Energy Plan 2016*, “In 2013, the state spent nearly \$2.3 billion annually — about 8% of Vermont’s GDP — on petroleum products that are extracted and refined elsewhere.” This is a significant drain on the Vermont economy, particularly when there are abundant, low-carbon and comparably-priced sources of energy available locally. Vermont businesses can **save money** and stop sending our energy dollars and jobs elsewhere by phasing out fossil fuels. More money then stays in state and supports the local economy.

INNOVATION: At the turn of the 21st century Vermont committed itself to a process of continuous innovation by launching the first-in-the-nation energy efficiency utility – Efficiency Vermont. This innovation has saved Vermonters tens of millions of dollars in energy bills, and Efficiency Vermont now exports its expertise around the nation and the globe. It’s time to push further.

⁴⁷

<http://legislature.vermont.gov/assets/Documents/2018/WorkGroups/House%20Natural/Carbon%20Pollution%20Taxes/W~Dan%20Barlow~Copy%20of%20Testimony~4-28-2017.pdf>

As a market mechanism, carbon pollution pricing spurs businesses to lead the way in the clean energy transition through **innovation and enterprise**. A carbon pollution fee in particular, with a predictable price, provides **greater certainty** in terms of calculating energy expenses.

VERMONT VALUES: Vermont is viewed as a “green state” and is highly regarded for its progressive and environmental **values**. Businesses that support carbon pricing demonstrate that they embrace these values and **attract a rapidly growing, socially conscious customer base** including the Millennial market.

Major Vermont brands and employers including Ben & Jerry’s, Burton, Gardener’s Supply, King Arthur Flour, Seventh Generation, Sugarbush and VEIC have called for a price on carbon pollution.

PROTECTING THE VERMONT BRAND: Iconic Vermont industries like the maple syrup, dairy, and winter recreation industries are at risk from climate change. Warmer temperatures and precipitation changes are leading to shorter sap tapping seasons, decreased milk output from heat-stressed cows, and reduced winter snowpack. Supporting a price on carbon helps **protect these important, iconic industries**.

HEALTHIER, MORE PRODUCTIVE EMPLOYEES: Decreasing pollution through carbon pricing results in measurable health benefits. For example, a 2017 study of associated health impacts from the Regional Greenhouse Gas Initiative (RGGI) from 2009 to 2014 found that the program generated \$5.7 billion in health savings, over 8,200 asthma attacks avoided, and more than 39,000 lost work days averted, including **nearly 400 lost work days avoided here in Vermont**.

A Harvard University study of a carbon pollution pricing proposal in Massachusetts estimates that the Bay State would save more than 300 lives and \$2.9 billion in health costs over two decades. Similar savings of lives and money are available in Vermont.

ECONOMIC SECURITY: Reducing carbon pollution helps **mitigate climate impacts like extreme weather events**, which affect businesses’ ability to remain open and profitable. In Vermont, flooding from Hurricane Irene cost taxpayers \$1 billion. The storm hit businesses particularly hard in towns like Waterbury.

GROWING VERMONT’S WORKFORCE: A 2014 Regional Economic Models, Inc. (REMI) analysis estimated that a carbon pollution price would draw 2000-5000 new residents into the Vermont looking for employment opportunities, high real wages, and a higher quality of life.

THE FIRST MOVER ADVANTAGE: Carbon pollution pricing is inevitable. Nearly all of America’s trading partners have or are in the process of adopting carbon pricing mechanism. The Paris Climate Accords all but commit countries around the world to design their own carbon fees. Even within the Trump White House there are advisors who understand and support carbon pricing.

The states, and businesses, that adopt carbon pricing now will spur innovation, entrepreneurship and new low-carbon processes and technologies. Vermont businesses want that innovation occurring here, so that Vermont businesses can market their new products and services to other states and nations that implement their carbon pricing programs later.

24. STUDENTS

Students should have a major role in shaping the conversation about climate change, because they're the ones who will have to live with so many of its consequences. That's why students are a vital part of the effort to put a price on carbon.⁴⁸



Without action on climate change, the millennial generation as a whole will lose nearly \$8.8 trillion in lifetime income.⁴⁹

⁴⁸ <https://theclimatesolution.com/how/student/>

⁴⁹ <http://www.demos.org/publication/price-tag-being-young-climate-change-and-millennials-economic-future>



Bob Allen: Endorsing a price on carbon pollution

Editor's note: This commentary is by Bob Allen, the president of [Green Mountain College](#).

Sep 28 2017 - Several months ago President Trump made the ill-conceived decision to withdraw the United States from the Paris Climate Agreement. In doing so, the president argued that he was protecting the American economy. In reality, his actions will keep our economy stuck in the polluting energy system of the past. We all know the future must be different. As the leader of an institution committed to environmental, social and economic justice, I have the good fortune of seeing a brighter tomorrow come alive in the ideas and actions of my students. For these students no challenge, including climate change, is too great. That's why I said yes when students asked me to sign a letter endorsing a price on carbon pollution. Last week many of these same students turned out to make the same request of Vermont's governor.

Following the withdrawal of the U.S. from the Paris agreement, I was pleased to see that Gov. Phil Scott stepped up and signified his intent to honor the goals of the agreement. One of his first executive actions after making this declaration was to form the Climate Action Commission. The stated goal of the commission is to develop solutions that reduce our climate polluting emissions while strengthening our economy and ensuring every Vermonter is included in the clean energy transition. The commission came to Bennington County last week for a public listening session and many students from Green Mountain College were there offering their own ideas. Thanks to these same students, I have my own recommendation.

My recommendation is a simple market-based solution that is already reducing carbon emissions in 40 countries and more than 20 cities, states and provinces around the world. It's a solution that is already partially implemented in Vermont and eight other states through the Regional Greenhouse Gas Initiative (RGGI), which has reduced emissions from power plants, invested in efficiency, and improved public health. It is of course not the only solution, but it's one that has the opportunity to make an impact in Vermont and serve as a model for other states looking to do their part to tackle the climate crisis. That solution is a price on carbon pollution.

In the absence of leadership from Washington, D.C., it's time once again for Vermont to step up. Carbon pricing represents a great opportunity for the governor and the Legislature to develop a bipartisan approach to one of today's most pressing challenges: pricing pollution to fund the solutions.

I'm proud to endorse carbon pricing as an opportunity for Vermont to move beyond the dirty energy systems of the past. The governor and the Vermont Legislature should put forward a carbon pricing policy that meets the commission's goal of strengthening our economy and including every Vermonter. An equitable solution that protects the most vulnerable in society is the best way forward. This will require creative thinking and compromise but that is the essence of good leadership. If our elected leaders need help in that regard, they need look no further than the students of Green Mountain College.

I am proud that so many of our students are speaking out – with passion, creativity, and optimism. They are urging Gov. Scott and the Legislature to take bold action and so am I.



Sabrina Melendez: A fee and dividend model of carbon pricing

Editor's note: This commentary is by Sabrina Melendez, a student at Bennington College who is a part of the Bennington Environmental Action Group and a member of the Bennington Climate Advocates, Bennington's local 350 chapter. She is a student fellow with Our Climate, which works to battle climate change with policy solutions.

Imagine getting a \$500 check in the mail once a year. Imagine that everyone else in your neighborhood or town receives the same exact \$500 check, regardless of their income or economic status. To top it off, imagine that merely receiving this \$500 check is in some way helping to reduce the worst effects of climate change, creating a better future for generations to come. This is what it means to put a price on carbon.

As a climate activist, I can say that carbon pricing is a hard sell, especially in Vermont. We used to call it a carbon tax, until we realized that it gave individuals the impression that they would be taxed for their carbon emissions. Indeed, it makes no sense to tax individuals for their carbon emissions because individuals are not to blame for Vermont's carbon footprint. Most Vermonters care about climate change and would take steps to reduce their carbon emissions if it was economically feasible. A price on carbon is not asking for extra money from already struggling middle- and low-income Vermonters. A price on carbon is asking for extra money from large-scale billion-dollar fossil fuel corporations that exploit Vermonters' dependence on fossil fuels and leave

us with no other option but to slowly degrade our own environment.

Of course, we do not deny that the same fossil fuel corporations that have managed to exploit rural Vermonters will pass down the carbon price to the consumer in order to avoid losing what, for a large fossil fuel company, is petty cash. Unlike climate activists and everyday Vermonters, the billionaire CEOs of ExxonMobil and Shell are not concerned with the disproportionate burden that raising gas prices would have on low- and middle-income Vermonters. This is why we propose a fee and dividend model of carbon pricing, the most widely approved climate policy by Republicans and Democrats alike. A fee and dividend model would tax the carbon emissions of fossil fuel companies at the extraction and distribution level, and the money from those taxes would be returned to the people of Vermont in order to make up for higher gas prices, aka, a \$500 check in the mail. (source: Regional Economic Modeling Inc.)

The percentage of carbon price revenue that goes back to the people varies according to different proposals by different climate groups and legislators. Some propose a revenue neutral carbon price, which would return every dollar generated back to the people of Vermont in forms of checks and rebates. Others see a price on carbon pollution as a way to fund other climate solutions. The latter group has proposed a 90/10 split in which 90 percent of the carbon pricing revenue is returned to the people of Vermont, and the other 10 percent is used for funding climate action projects such as

low-income weatherization, renewable energy, and carbon sequestration projects, as well as lowering taxes for individual Vermonters.

In short, climate groups are not interested in “imposing a carbon tax on our workforce” as Gov. Phil Scott said in a statement he released on Sept. 26. The statement was in response to the newly established Climate Action Commission’s “listening tour,” in which carbon pricing was repeatedly suggested by a wide array of local Vermonters as the most feasible and just way to address the climate crisis. In Bennington County, 40 out of the 48 Vermonters who spoke advocated

for carbon pricing. If Gov. Scott refuses to consider a carbon price that will actually help low- and middle-income Vermonters, then the Climate Action Commission serves no purpose but to smile and wave as climate change disproportionately targets low and middle-income Vermonters in the years to come.

This summer, Scott made a commitment to preserve the future of Vermont in the face of human-caused climate change. Will he be bold enough to follow through? Will we be bold enough to make him?



VT Digger: Nearly 1,400 students descended on the state capitol Wednesday, April 11 for a rally against climate change. High school students organized the event, which was conceived three years ago by students in a civics class at Harwood Union High School.

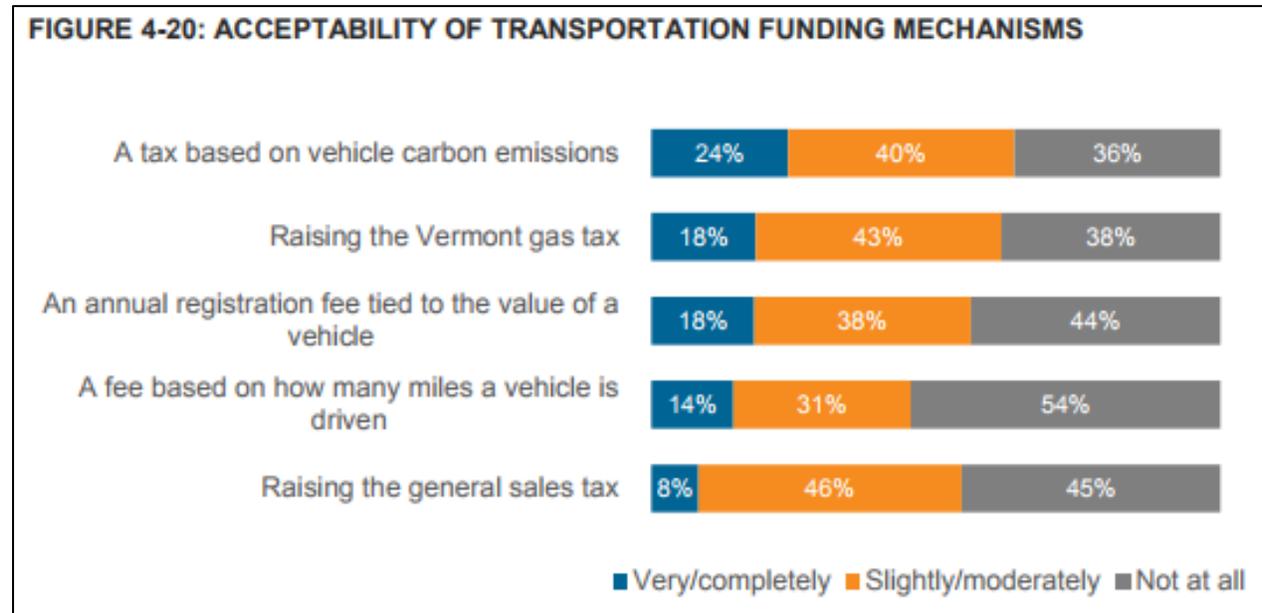
Several of the students provided testimony to legislators on the importance of reducing carbon dioxide releases into the atmosphere that are causing rapid climate change. Mount Mansfield Union High School senior Graham Swaney testified in the Senate Natural Resources and Energy Committee in support of a tax on carbon pollution.⁵⁰

⁵⁰ <https://vtdigger.org/2017/04/13/photo-gallery-high-school-students-mob-vermont-statehouse-climate-change-rally/#.WdYOUFtSx1s>

25. TRANSPORTATION

A 2016 VTRANS study found that Vermonters supported carbon pricing for transportation projects more than any other funding source.⁵¹

LRTP PUBLIC OPINION SURVEY



In 2016, the Vermont Agency of Transportation (VTrans) updated the 2009 Long Range Transportation Plan (LRTP) to guide multimodal plans for Vermont’s transportation system over the next 25 years. As part of the public participation process for the LRTP, VTrans contracted Resource Systems Group, Inc. (RSG), to design and conduct a public opinion survey of Vermont residents. The objective of the public opinion survey was to gather necessary information to understand statewide transportation issues and opportunities, and to inform and prioritize the vision, goals and policies, and investment priorities to sustain Vermont’s transportation system for the future.

*Respondents were asked about the acceptability of a variety of funding mechanisms for transportation projects - **the mechanism perceived as being the most acceptable was a tax based on vehicle carbon emissions.***

⁵¹

<http://vtrans.vermont.gov/sites/aot/files/planning/documents/planning/VTrans%20LRTP%20Survey%20Report%20Final%202016.pdf>

26. TRANSPORTATION DEMAND MANAGEMENT

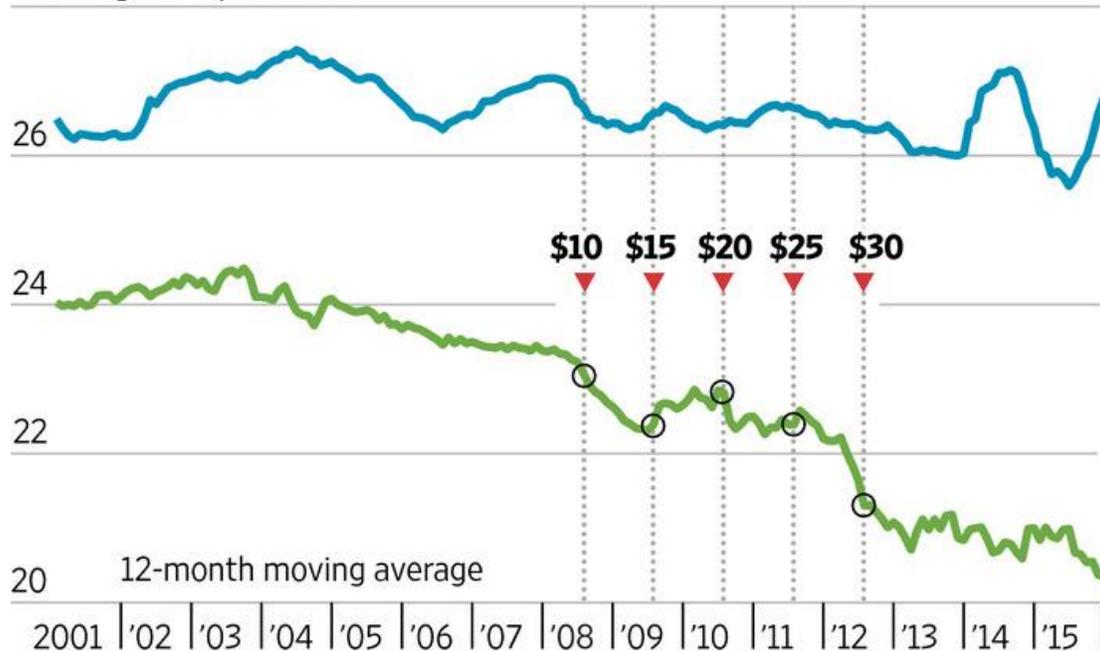
Carbon pricing has been shown to drive down demand for gasoline, and at \$25/ton is 7.1 times more salient than an equivalent market price increase in the cost of gasoline.⁵²

A Climate Policy Leaves Its Mark

A proposed revenue-neutral carbon tax in Washington state is modeled on British Columbia's, which has led to relatively faster declines in gasoline consumption.

Per capita gasoline consumption

28 U.S. gallons per month



Source: Werner Antweiler and Sumeet Gulati, University of British Columbia

THE WALL STREET JOURNAL.

⁵² Salience of Carbon Taxes in the Gasoline Market, Nicholas Rivers and Brandon Schaufele, October 22, 2014

27. VERMONT COMMUNITY ACTION PARTNERSHIP

Climate change is regressive. A well designed carbon price can prioritize the most vulnerable and allow all Vermonters the opportunity to thrive in a healthier, more equitable and affordable state.



House Committee on Natural Resources, Fish, & Wildlife

Testimony by Dan H. Hoxworth,
Executive Director, Capstone Community Action
Friday, April 28, 2017

Thank you, Chair for the opportunity to address the Committee on the carbon pollution tax proposals that have been introduced to the State legislature. I commend you all for taking time to hear testimony during this pressing time of the session.

At Capstone, our overarching goal is to build more sustainable households and communities. Climate change is a major threat to this goal and the individuals and families we serve. That's because low-income Vermonters are often the most impacted by climate change. In other words, climate change is regressive.

First let me elaborate on the ways, climate change is regressive.

- 1) Vermonters with low income suffer the greatest consequences from ever more violent storms and volatile weather. They are:
 - a. The first hit –they live in the most risk prone locations;
 - b. The worst hit --they live in the most vulnerable structures;
 - c. The slowest to recover, if they ever do, from these weather events, as we saw in the aftermath of Superstorm Irene.
- 2) Economically vulnerable Vermonters face the greatest financial burden from our carbon based economy. They:
 - a. Are the most vulnerable to price spikes in food and fuel due to climate-related events and carbon fuel price volatility. They have no capacity to financially absorb the additional costs.

- b. Often have to drive out away from job centers to find affordable housing. Thus, they are forced to commute farther distances.
 - c. Are energy poor. They spend an inordinately large percentage of their income on fuel for their home and transportation.
- 3) They are the most negatively impacted by the health risks inherent in our carbon based economy. Low income communities are often closer to carbon emissions from roads and industry and, thereby, suffer the most from air pollution and soil degradation with often severe health effects.

Yes, **Climate Change is regressive**. Yet, we can achieve economic fairness and environmental justice in Vermont. We can lead the nation. Here's how.

First, we must put the same effort and resources to transportation efficiency that we have in reducing energy use, residentially, commercially and industrially. We must create transportation choices throughout Vermont and most importantly ensure they are accessible and affordable to low and moderate income Vermonters. We have made great progress and significant investments in energy efficiency. This must continue. Yet, as a State, we have no coherent strategy or plan for increasing transportation efficiency. This is crucial.

Indeed, the report, "Mapping Total Energy Burden in Vermont" recently issued by Efficiency Vermont lays bare an unfortunate truth about Vermont: while we lead the nation in energy innovation, we're doing no better than the rest of the country in helping low-income households lighten their disproportionate energy burden. Residents of our poorest communities are paying more than a quarter of their total income on energy, while residents in our richest communities are paying less than five percent. We can do better. We must do better.

We must move aggressively on creating both transportation efficiency and transportation choices to ensure that we don't burden low income Vermonters as we tackle our economic and moral duty to combat climate change. This is not an either/or. This is a both/and.

Now, I will turn my attention to the carbon pollution tax proposals. As Ronald Reagan said, *"If you want more of something, subsidize it; if you want less of something, tax it.* For years, we have subsidized our carbon-based economy and encourage carbon pollution by not pricing it. Carbon pollution affects every Vermonter. It affects low income Vermonters the most. So let's tax it. Let's put a price on carbon and use market forces to reduce carbon dioxide emissions. It's the progressive thing to do.

So what would a carbon pollution tax achieve for our State and residents?

1. It would spur consumer demand for innovative transportation alternatives and encourage innovation.
2. It would transition us away from the inefficient internal combustion engine. Let's stop driving furnaces!

3. It would encourage local renewables as an energy source.
4. It would spur growth of our Climate Energy Economy; creating even more sustainable jobs (now at 17,000 in Vermont) that contribute to our environment, not destroy it.
5. It would serve as a model for other states to follow and thereby, further establish Vermont as a leader in sustainability and the environment, thereby attracting more young people to live, work and play here.
6. Over time, it would improve the health of Vermonters through better air quality, water quality and less environmental degradation.
7. Over time, it would reduce the risk and impact on low-income Vermonters from weather-related disasters.
8. Finally, designed correctly, it could create a more progressive and equitable tax system in Vermont.

So how do we ensure that a carbon pollution tax is progressive and does not unfairly burden low income Vermonters?

The offsetting reduction in taxes must provide timely cash-flow for low income Vermonters. A sales tax reduction would be one way for people to immediately save money and be reducing or eliminating a regressive tax.

A significant cut in income tax especially for those in the lowest two brackets would provide greater cash-flow by allowing for less state income tax to come out of every paycheck. A doubling of the Earned income Tax Credit would increase the incentive for working and would lift more Vermonters out of poverty.

Indeed, the Earned Income Tax Credit is considered by many to be the nation's most successful anti-poverty program for working families. This credit along with other tax credits elevated over 9.2 million Americans out of poverty in

2015, for example.

Last year, right here in Central Vermont, Capstone's Volunteer Income Tax Assistance program, helped more than 1,300 low and moderate income households complete their taxes and access available credits and rebates. In 2016, this brought back \$1.4 million to the households with an average overall refund of \$1,500. This is an economic stimulus to our region as households rely on these funds for basic necessities; to make car repairs so a person can get to work; and to cover healthcare expenses, such as taking their children to the dentist or invest in a home. These funds are often critical to creating a level of stability in the lives of those we serve.

It is difficult to see how a property tax reduction would provide timely cashflow to low income Vermonters to offset the carbon pollution tax. The dividend proposal would provide some assistance but only on a quarterly basis.

Why is it important that we make our tax structure in Vermont more progressive?

Right now, according to the Public Assets Institute, the top 1 percent in Vermont pays the lowest percentage on state and local taxes—under 8 percent of income in 2015. While the

lowest 40 percent pay nearly 9 percent of their income. I strongly believe that any tax reform must make the tax system in Vermont more progressive to reduce the burden on low and moderate income Vermonters.

Finally, Vermont is already seen as a leader in energy efficiency having created the first energy efficiency utility in the United States in VEIC. A carbon pollution tax would solidify our state's reputation as a leader in addressing climate change. For millennials like my two sons, they want to be a part of achieving these goals. By establishing a carbon pollution tax, Vermont would reinforce its brand as a leading state in creating a sustainable, renewable economy. This brand will be a draw to the very young people we need to replenish and expand our workforce as my generation moves toward retirement.

Again, Vermonters want a healthier, more equitable and affordable state. We can achieve 90 percent renewables in 2050. We can move down that road by creating a comprehensive transportation strategy that yields both more efficient options for all Vermonters. And yes, a carbon pollution tax would be a powerful tool to achieve both a progressive tax structure and a greener Vermont.

I encourage you to support the Joint Resolution and to investigate how we could operationalize a carbon pollution tax in Vermont. I am confident that your grandchildren and mine would benefit from your wisdom and look back favorably on your legacy.

ADDITIONAL RESOURCES

The following documents can help the Vermont Climate Action Commission and other Vermont policy makers craft a carbon pollution price that:

- Spurs economic activity, inspires and grows Vermont businesses, and puts Vermonters on a path to affordability;
- Engages all Vermonters, so that no individual or group of Vermonters is unduly burdened; and
- Provides solutions for all Vermonters to reduce their carbon impact and save money; and
- Is commensurate to the climate challenge Vermont faces.

How to Adopt a Winning Carbon Price – A case study about how British Columbia implemented a carbon pollution price and recommendations for other jurisdictions.⁵³

Carbon Pricing Watch 2017, World Bank⁵⁴

Putting a Price on Carbon: A Handbook for U.S. Policymakers, World Resources Institute⁵⁵

Carbon Pollution Taxes: A Short Vermont Primer, Prof. Janet Milne, Vermont Law School⁵⁶

State-Level Carbon Taxes: Options & Opportunities, Brookings Institute⁵⁷

11 essential questions for designing a policy to price carbon, Brookings Institute⁵⁸

2017 Handbook on Carbon Pricing Instruments, Climate Reality Project⁵⁹

⁵³ <http://cleanenergycanada.org/work/adopt-winning-carbon-price/>

⁵⁴

<https://openknowledge.worldbank.org/bitstream/handle/10986/26565/9781464811296.pdf?sequence=4&isAllowed=y>

⁵⁵ <https://pdfs.semanticscholar.org/6661/33fb0480bbe0b8738520c3a2a59beb882c45.pdf>

⁵⁶ <http://www->

<assets.vermontlaw.edu/Assets/etpi/Carbon%20Polltuion%20Taxes%20A%20Short%20Vermont%20Primer%20Milne%202016.pdf>

⁵⁷ <https://www.brookings.edu/wp-content/uploads/2016/07/State-level-carbon-taxes-Options-and-opportunities-for-policymakers.pdf>

⁵⁸ <https://www.brookings.edu/research/11-essential-questions-for-designing-a-policy-to-price-carbon/>

⁵⁹

https://www.climatealityproject.org/sites/climatealityproject.org/files/HandbookonCarbonFinancing_Final_May16.pdf



www.EnergyIndependentVT.org